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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,937	12/11/2003	James C. Bridges	5505B	7307

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EXAMINER	
JUSKA, CHERYL ANN	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/732,937	BRIDGES ET AL.	
	Examiner	Art Unit	
	Cheryl Juska	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *29 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28,30-32 and 34-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-28 and 34-36 in the reply filed on December 7, 2005, is acknowledged. The traversal is on the ground(s) that claim 1 includes process language and as such examination of the process claims in Group II should not present an undue hardship (Amendment, page 8, 2nd paragraph). This is not found persuasive because the search for Group II is not necessarily required for Group I. Product by process claims or other product claims including process limitations are examined on the product produced and not necessarily the method of making said product. However, it is noted that claims 30-32 are actually product by process claims and should be included in Group I. As such, elected claims 1-28 and 34 will be examined along with product claims 30-32 and new product claims 35 and 36.

2. Claims 29 and 30 are hereby withdrawn as non-elected. However, said claims may be subject to rejoining under MPEP § 821.04(B), upon indication of allowable subject matter for the elected product claims.

3. The requirement is still deemed proper and is therefore made FINAL.

Response to Amendment

4. Applicant's amendment filed December 7, 2005, has been entered. Claims 1, 11, 12, and 34 have been amended as requested. New claims 35 and 36 have been added.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 27 is indefinite because it is unclear what is meant by the phrase "said thread has 1 to 4 ply not including said low melt." Said phrase is contrary to the limitation of claim 1 wherein the thread is comprised of the low melt fiber. Does applicant intend to mean the thread has 1-4 plies in addition to the one ply comprising the low melt fiber?

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-28, 30-32, and 34-36 are rejected under 35 USC 103(a) as being unpatentable over WO 88/03969 issued to Hackler in view of US 2003/0014823 issued to Biestline et al., US 5,116,243 issued to Willis, and/or US 5,035,018 issued to Robbins et al.

Applicant claims a carpet made by the process of:

(a) forming a thread comprising at least one low melt fiber and at least one high melt fiber,

(b) heating said thread above a temperature sufficient to melt said low melt fiber,

(c) tufting said thread in a carpet backing to form a tufted carpet, and

(d) printing an image on said tufted carpet with a jet dye machine.

The low melt fiber is incorporated into the thread by blending, doubling, twisting, or spinning. More specifically, the low melt fiber is incorporated into the thread by (a) blending the low and high melt fibers and forming a thread, (b) by forming a thread of a high melt fiber, passing the thread through a doubling or winding process wherein a low melt fiber or thread is added, and spinning to form a combined thread or yarn, or (c) forming a fiber blend from a high melt fiber, passing said blend through a ring spinning process wherein a low melt fiber is added to form a combined thread. Said temperature is in the range of 60 to160°C, preferably no more than 120°C. The low melt fiber is preferably a polyamide, such as nylon 6,6 or nylon 6, while the high melt fiber may be nylon, wool, polyester, polypropylene, or blends thereof, such as a nylon wool blend. The printing is preferably done with a jet dye machine in a pixelate fashion. The thread has a cotton count ranging from about 1.0 to 5.0, preferably about 2, a yarn count of about 0.5 to 8.0, preferably about 3, or is about 6-25 dpf, preferably 19 dpf. In one embodiment, the carpet comprises 8-28 dpf of nylon fibers or wool fibers having a diameter of about 25 to 40 microns, preferably 38 microns. The thread has about 1-10 twists per inch (tpi), preferably 5 tpi and a 1-4 ply yarn. In one embodiment the thread is plied with nylon with about 4.5 tpi. When the tread is 19 dpf, it has 1-4 plies not including the low melt fiber, preferably 2 ply. The carpet is at least one of cut pile, loop pile, cut and loop pile, broadloom, carpet tile, area rugs, and runners.

Hackler discloses a yarn comprising a blend of a base fiber, such as polyester, nylon 6, or nylon 6,6, and 1-12 wt.% of a heat activated binder fiber having a melting point within the range

of 110-170 C, such as a copolyamide fiber, such as nylon 6/66/12 (abstract and page 4, lines 5-13). The yarn is twisted, plied, and heat set, and then tufted into a carpet backing (abstract and page 3, line 33-page 4, line 4). Specifically, for a staple fiber yarn, the binder fiber is blended with the base staple fibers and the blend then processed into a yarn in conventional ways (page 4, lines 14-16). The tufted carpet is subsequently processed by known methods including backcoating, dyeing, and finishing (page 5, lines 22-34). In a working example, Hackler teaches yarn made of a blend of 3 wt.% low melt copolyamide staple fiber and 97 wt.% high melt nylon 6 staple fiber (page 5, line 35-page 6, line 2). The yarn is made by blending the fibers, carding, and spinning the blend into a singles yarn by conventional processing methods to produce a yarn with a cotton count of 3's and 4.7 tpi (page 6, lines3-6). Said singles yarn is then plied with a similar yarn to produce a 2 ply 3's/2 cotton count yarn (page 6, lines 5-7). The plied yarn is then twist set by a conventional process, wherein besides twist setting, the low melt fiber is activated to bind the yarn (page 6, lines 8-11). The set yarn is then tufted into a carpet backing and finished conventionally (page 6, lines 12-14). In a second working example, Hackler teaches a continuous filament (BCF) yarn according to the invention (page 6, lines 20-26). The BCF yarn is a nylon yarn that is processed by twisting, entangling, or direct cabling to produce a 2 or 3 ply yarn (page 6, lines 27-35). For example, a 70 denier 14 filament yarn is cabled with a 1185 denier 70 filament yarn with 3.5 tpi in each of the singles yarns and 3.5 tpi in the 2 ply twisted yarn (page 6, line 35-page 7, line 2). The 2 ply yarn is then combined with a binder yarn comprising 70 denier nylon filaments (page 7, lines 2-13).

Thus, Hackler teaches the presently claimed invention with the exception that the tufted carpet is printed with an image by a jet dye machine in a pixelate fashion. However, said

printing of carpets is well known in the art. For example, Robbins teaches a method of applying dye to a carpet by a jet dye machine in a pixelated manner (col. 4, line 58-col. 5, line 53.) Willis also teaches, "Current carpet printing processes, especially current jet printing processes, can produce printed elements, or pixels, having sizes of the order of one millimeter." (col. 5, lines 22-25). Beistline discusses Milliken's Millitron jet dyeing apparatus for dyeing carpet on a pixel-by-pixel basis (section [0065]). Hence, it would have been obvious to print the carpet of Hackler with the pixelated jet dye machine according to Robbins, Willis, and/or Biestline in order an aesthetically pleasing, commercially viable carpet having good tuft resiliency. Therefore, claims 1-12, 14, 19-24, 30, and 34-36 are rejected as being obvious over the cited prior art.

With respect to claims 13 and 16-18, Hackler is silent with respect to the use of wool fibers or nylon/wool blends. However, the use of wool in carpet pile is well known in the art. Applicant is hereby given Official Notice of this fact. As such, it would have been obvious to one skilled in the art to employ wool fibers for the base fiber of Hackler. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Additionally, it would have been obvious to select wool fibers having the claimed diameter and nylon fibers having the claimed denier. In particular, wool is a natural fiber having a limited range of fiber size and the claimed size is known in the art. Also, the claimed denier range of nylon fibers is known in the art. Hence, it would have been obvious to select the claimed diameter and denier range in order to produce a nylon and wool carpet having a desired

hand and fineness. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 205 USPQ 215. Therefore, claims 13 and 16-18 are rejected as being obvious over the cited art.

With respect to claims 15 and 25-28, it would have been obvious to select the claimed yarn count or denier, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 205 USPQ 215. A decrease in the size of the yarn would result in a finer yarn having a softer hand. Thus, claims 15 and 25-28 are rejected.

With respect to claims 31 and 32, Hackler does not explicitly teach the steps of (i) by forming a thread of a high melt fiber, passing the thread through a doubling or winding process wherein a low melt fiber or thread is added, and spinning to form a combined thread or yarn or (ii) forming a fiber blend from a high melt fiber, passing said blend through a ring spinning process wherein a low melt fiber is added to form a combined thread. However, these claimed steps are well known yarn formation methods in the art of textiles. Applicant is hereby given Official Notice of this fact. Thus, it would have been obvious to one skilled in the art to select an alternative method of yarn formation in order to produce the blended yarn of Hackler. Motivation to do so would be to produce a variety of yarn textures and sizes desired for a particular carpet style. Therefore, claims 31 and 32 are rejected.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Cheryl Juska whose telephone number is 571-272-1477. The examiner can normally be reached on Monday-Friday 10am-6pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached at 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cj
February 20, 2006

CHERYL A. JUSKA
PRIMARY EXAMINER